

A Peculiar New Species of the Genus *Gotoblemus* (Coleoptera, Carabidae) from the Westernmost Part of the Gotô Islands, Western Japan

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Abstract A new species and a new subspecies of the blind trechine genus *Gotoblemus* S. UÉNO, 1970 are described from the westernmost part of the Gotô Islands, off the western coast of Kyushu in western Japan: *G. fukueicus* sp. nov. and *G. f. occidentalis* subsp. nov. The constituents of *Gotoblemus* including the new species are arranged into three species-groups in two subgenera. Among them, the new species forms the proper species-group but is tentatively placed in the subgenus *Kamigotoblemus* NAITÔ, 2018 of *Gotoblemus*.

Introduction

Until recently, only two species of anophthalmic trechines, *Gotoblemus* (*Gotoblemus*) *ii* S. UÉNO, 1970 and *Stygiotrechus pachys* S. UÉNO, 1970, have been known from the Gotô Islands, off the western coast of Kyushu, western Japan; both of these species are endemic to the lava caves located in the southernmost area of Fukue-jima, the westernmost island of the Gotô Islands. However, two new species of *Gotoblemus* S. UÉNO, 1970 were described by NAITÔ (2018) from the northeastern area of the islands, Nakadôri-jima, Wakamatsu-jima and Naru-shima Islands. At the same time, NAITÔ (2018) stated that several undescribed populations of the blind trechines, all of which seem to be attributable to the *Trechoblemus* phyletic series (JEANNEL, 1928, 1962; CASALE & LANEYRIE, 1982; CASALE *et al.*, 1998), were discovered from all over the range of the Gotô Islands and remain to be studied. The aim of this paper is to introduce a morphologically remarkable population of the genus *Gotoblemus* S. UÉNO, 1970 into science. It occurs in the westernmost area of the Gotô Islands and is very similar at least in general appearance to the members of *Kurasawatrechus* A. YOSHIDA *et* S. NOMURA, 1952 and *Dracotrechus* S. UÉNO, 2010 distributed in eastern to northeastern Japan and South Korea.

The new species, however, seems to be different at generic level from them in having the articulated labium (from species of both genera), in the presence of visible scutellum (from *Kurasawatrechus* species), in the absence of external groove on protibia (from *Dracotrechus* species), and in having the pubescent dorsum (from *Dracotrechus* species) (YOSHIDA & NOMURA, 1952; UÉNO, 2010). Therefore, the new species, somewhat tentatively, placed in the subgenus *Kamigotoblemus* of the genus *Gotoblemus*, which turned out to be widespread over the Gotô Islands even in the extra-cave subterranean environment of its northeastern area. The new species, though differing considerably in appearance imparted by its dark-colored stout body, is similar to *Gotoblemus* species at least in having the medially constricted body form and the elytra with not distinctly serrulate humeral sides, and in particular to the constituents of the subgenus *Kamigotoblemus* in having the articulated labium and male protarsi with dilated proximal two segments. Among the members of *Gotoblemus*, the new species is considered to represent the species-group of its own.

Abbreviations used for the ratio of the measured body parts in this paper are as follows: HL — length of head, measured from the apical margin of clypeus to neck constriction along the mid-line; HW — greatest width of head; PL — length of pronotum, measured along the mid-line; PW — greatest width of pronotum; PA — width of pronotal apex; PB — width of pronotal base; EL — greatest

length of elytra; EW — greatest width of elytra; M — arithmetic mean. Terminology concerning the female genitalia was adopted from LIEBHERR and WILL (1998) and LIEBHERR (2018). The holotypes designated in this paper will be deposited in the collection of the National Museum of Nature and Science, Tsukuba (NSMT).

Taxonomy

Genus *Gotoblemus* S. UÉNO, 1970

Gotoblemus S. UÉNO, 1970: 615 (type species: *Gotoblemus ii* S. UÉNO, 1970). — NAITÔ, 2018: 434 (establishment of a subgenus).

Subgenus *Gotoblemus* S. UÉNO, 1970

Diagnosis. Medium-sized; colour entirely pale yellowish brown even in dry specimens; appendages very thin and elongate; labrum hardly emarginate apically; supraorbital setae two on each side, but frequently supplemented with short accessory setae; setae on frontovertexal area more than two pairs; ligula subquadrate; labial suture totally vanished; mentum tooth thin and lingulate with the tip roundly produced; elytral sides faintly entirely serrulate; male protarsi only with the proximalmost segment dilated and spurred.

Range. Endemic to the lava caves in the southernmost area of Fukue-jima Island, the westernmost island of the Gotô Islands.

Remarks. Comprising only the type species of the genus, *Gotoblemus* (*Gotoblemus*) *ii*, which should form the species-group of its own (the *ii* species-group) diagnosed by the subgeneric characteristics.

Subgenus *Kamigotoblemus* NAITÔ, 2018

Gotoblemus (*Kamigotoblemus*) NAITÔ, 2018: 434 (type species: *Gotoblemus gracilicornis* NAITÔ, 2018).

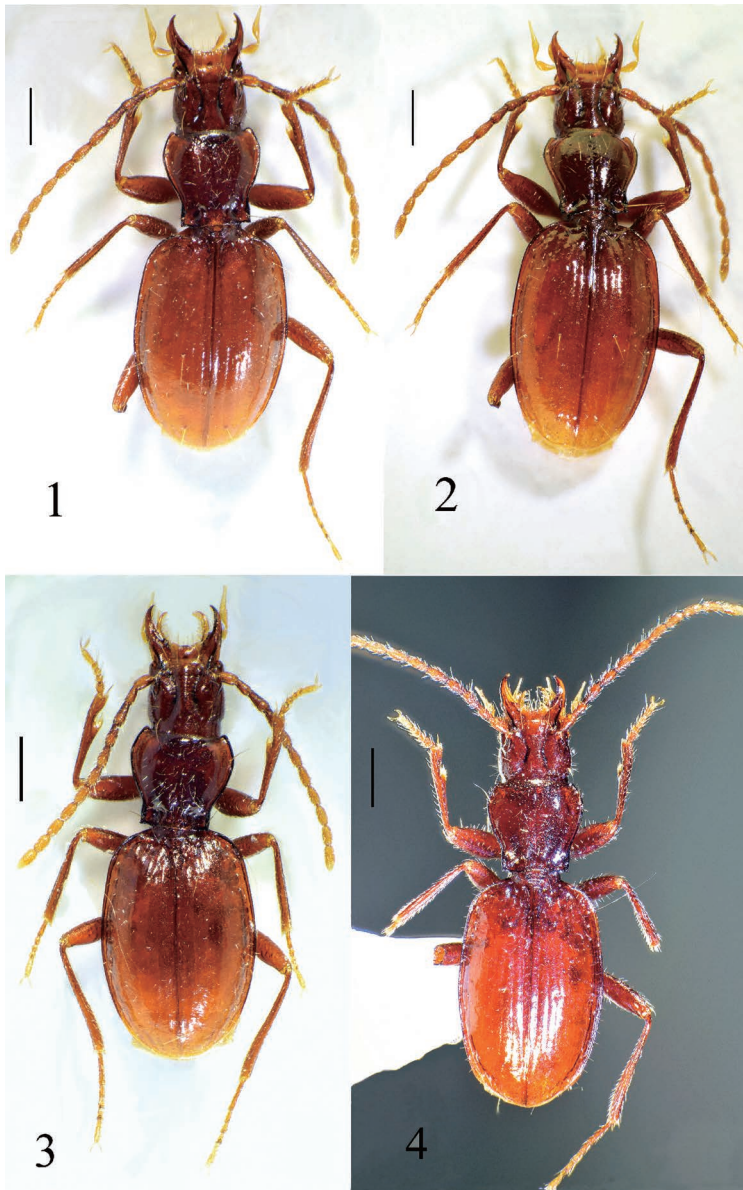
Diagnosis. Body size variable from relatively large to very small; colour either two-tone with reddish fore-body and pale yellowish hind-body or entirely brunneus; appendages stouter than the nominotypical subgenus; labrum with the apex gently emarginate; ligula subtriangular in apical parts; labial suture visible throughout; mentum tooth variable according to species; supraorbital setae either normally two pairs or supplemented with accessory setae; setae on frontovertexal area either more than two mal-differentiated pairs or only one distinct pair; elytral sides variable according to species; male protarsi with proximal two segments dilated and spurred.

Range. Nakadôri-jima, Wakamatsu-jima and Naru-shima Islands, and Fukue-jima Island in the Gotô Islands.

Remarks. This subgenus is classified into the following two species-groups.

The *gracilicornis* Species-group

Diagnosis. Body size medium to very small; highly depigmented; frontovertexal area hairy with plural pairs of mal-differentiated setae; mentum tooth either thin and simple with rounded apex or



Figs. 1–4. *Gotoblemus (Kamigotoblemus) fukueicus* sp. nov., habitus. — 1 & 2, The nominotypical subspecies, male holotype; 3, ditto, female paratype; 4, *G. (K.) f. occidentalis* subsp. nov., male holotype. — 1, 3 & 4, Dorsal habitus; 2, dorsal habitus in slightly posterior oblique view. Scales: 0.50 mm.

flanked with edges and slightly emarginate (or subtruncate) at apex; pronotal discal setae hardly distinguishable; pronotal basal transverse impression continuous, with narrow depressed basal area possessing only a pair of laterobasal foveae; elytral sides entirely faintly serrulate, though the humeral serrulation is sometimes slightly emphasized; apicomedial seta of female basal gonocoxite almost always single.

Range. Northern to middle regions of the islands located in the Kami-gotô area (northeastern

area) of the Gotô Islands.

Remarks. This species-group, which comprises two species, *Gotoblemus* (*Kamigotoblemus*) *gracilicornis* NAITÔ, 2018 and *G. (K.) exilis* NAITÔ, 2018, may be subdivided into two monobasic subgroups. However, I refrain from making such a treatment in this place.

The *fukueicus* Species-group

Diagnosis. Body size relatively large; integument rather thick and dark colored; frontovertexal area with degenerative pubescence and a pair of distinct setae (on vertex); mentum tooth distinctly bifid at the tip; usually two or three discal setae discernible on each side of pronotal mid-line; pronotal basal transverse impression interrupted (or nearly so) at middle by an obtuse ridge, with a small longitudinal impression on each side of the ridge, suboval laterobasal foveae very deep and sharply delimited and bearing a small oblique impression at the bottom; elytral sides entirely smooth; apicomedial seta of female basal gonocoxite usually two.

Range. Western area of the Fukue-jima Island (the westernmost island) of the Gotô Islands. Localised to the west of the Kishiku Alluvial Plain (Basin), which is in the center of the Fukue-jima Island; distributed to the west of the ranges of the other species-groups of *Gotoblemus* s. lat., and also to the west of the range of *Stygiotrechus* UÉNO, 1958.

Remarks. At present this group includes only *Gotoblemus* (*Kamigotoblemus*) *fukueicus* sp. nov. to be described below.

However, this species-group will be subdivided into at least two subgroups in the future. The second subgroup will be composed of some undescribed species occurring in the Kami-gotô area and characterized by the following peculiarities: fairly dark colored; mentum tooth relatively narrow, flanked with edges, and distinctly bifid with the furca slightly divergent apicad; elytral sides distinctly serrulate at the humeral parts as in *Stygiotrechus*, but the post-humeral parts are also faintly serrulate as in the *gracilicornis* group.*

Judging from the articulated labium with sharply bifid mentum tooth and rather dark-colored stout body form, species of the *fukueicus* group seem more closely related to the previously known members of *Stygiotrechus* than to the previously known congeners. It is true that taxonomic limit and phylogenetic relationships of these two genera are not yet sufficiently resolved. However, at least in the present state of the taxonomic treatment of them, the *fukueicus* group (including the undescribed species) can be discriminated from *Stygiotrechus* by the condition of elytral lateral margins: in *Stygiotrechus*, serrulation or dentation of elytral margins distinct and restricted in the humeral sides (UÉNO, 1958, 1969; NAITÔ, 2018). In particular, the species-groups of *Stygiotrechus* distributed in Gotô area and the westernmost part of northern Kyushu, the *kubotai* and *pachys* groups, are different from the *fukueicus* group in the following features: pronotal base very wide; the pronotal basal portion delimited by transverse impression entirely minutely rugulose and usually slightly, transversely twofold, with laterobasal foveae very large but diffuse; external face of protibia longitudinally grooved, though sometimes only vestigially; bursa copulatrix of female reproductive tract prolonged (Figs. 9C & D). Members of the other species-groups of *Gotoblemus* s. lat. can be more easily discriminated from *Stygiotrechus* by a combination of some of the diagnostic criteria shown in UÉNO (1970, p. 615) and NAITÔ (2018, p. 440).

*A syntopic species of *Gotoblemus exilis* referred to as an undescribed species of *Stygiotrechus* in NAITÔ (2018, p. 452) is identical with one of the undescribed species of this subgroup. Thus, *Gotoblemus exilis* is, in reality, syntopic with the *Gotoblemus* of the other species-group.

Gotoblemus (*Kamigotoblemus*) *fukueicus* sp. nov.

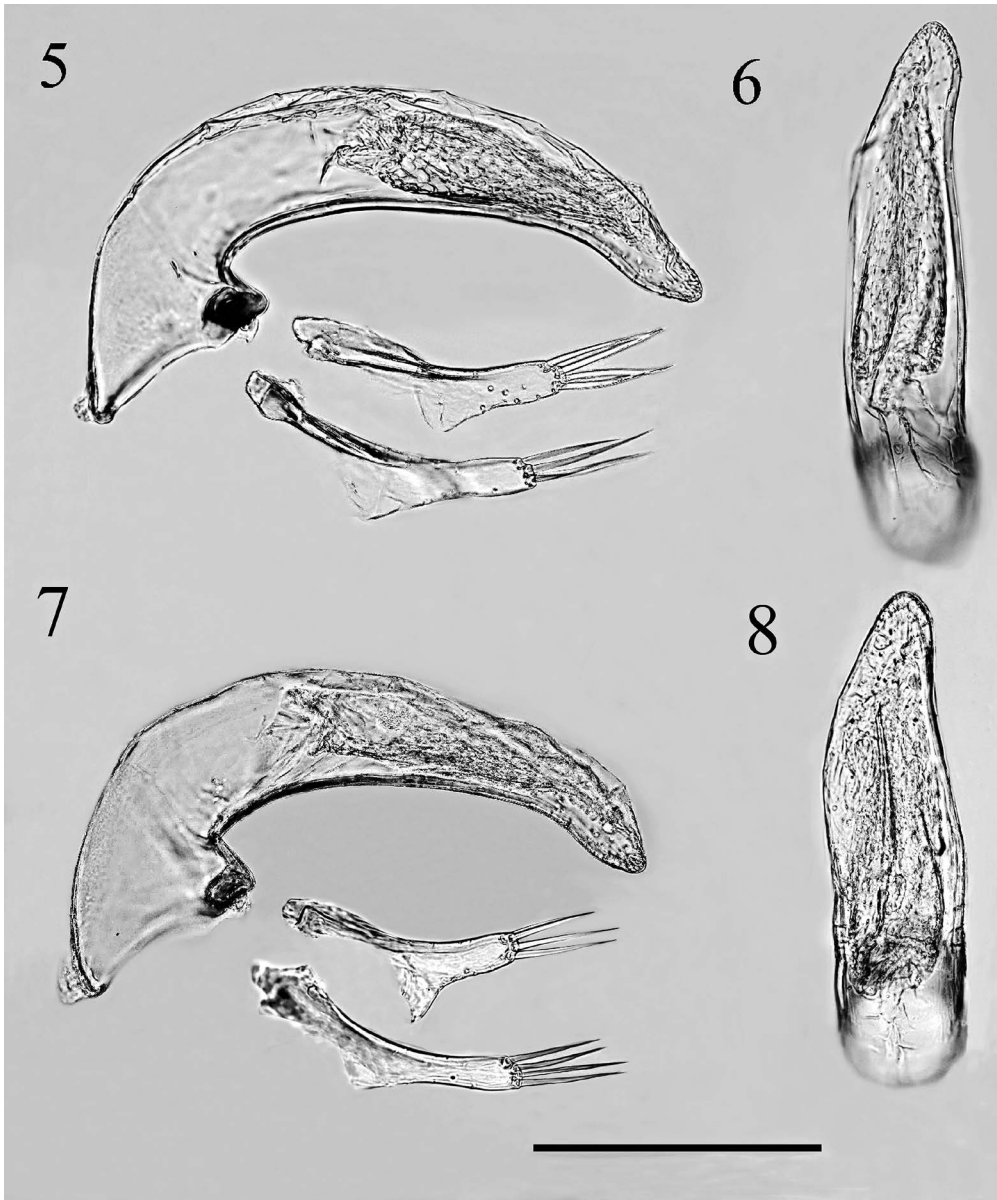
(Figs. 1–3, 5–6 & 9B)

Description. Length: 2.93–3.39 mm (from apical margin of clypeus to apices of elytra). Habitus constricted between cordate pronotum and ample elytra. Colour light to dark reddish brown, usually hind-body is somewhat lighter than fore-body; palpi pale yellowish brown; apical halves of antennae and tarsi more or less lighter and more yellowish than in dorsum. Surface fairly smooth and shiny, though reticulation of microsculpture is entirely visible.

Head subquadrate, wider than long; HW/HL 1.20–1.13 (M 1.18), widest at the posterior portion of genae and more strongly narrowed in front; frontal furrows entirely deep and distinct, and gently regularly arcuate both in front and behind; neck wide, marked by shallow constriction; fronto-vertexal and supraorbital areas moderately convex; genae relatively gently convex, sparsely pubescent, each usually with a temporal seta; vertex provided with a pair of distinct suprafrontal setae; microsculpture chiefly composed of fine transverse meshes, but partially of isodiametric polygonal ones on vertex, becoming coarser on frons; mandibles fairly long; proximal cusp of retinaculum smaller than distal one in right mandible; in left mandible, retinaculum scalene triangular with anterior oblique side only weakly tricuspid; mentum relatively shallowly and widely roundly concave, incompletely fused with submentum; mentum tooth relatively large, rather thin but flanked with edges, and clearly, rather deeply cleft at the tip; submental setae usually seven in number, but rarely eight; palpi fairly large and long, with ultimate segments well elongate apicad; penultimate maxillary palpomere a little shorter than ultimate one, rapidly dilated apicad and covered with several short vestigial hairs. Antennae hardly dilated apicad, more or less gnarled in the basal portions, reaching basal two-fifths of elytra in male and extending a little beyond basal one-third of elytra in female; antennal segment 2 about 11/15 as long as segment 3, which is a little longer than segment 4; segment 5 subequal to segment 3 in length; apical segment the longest, though not much longer than segment 3.

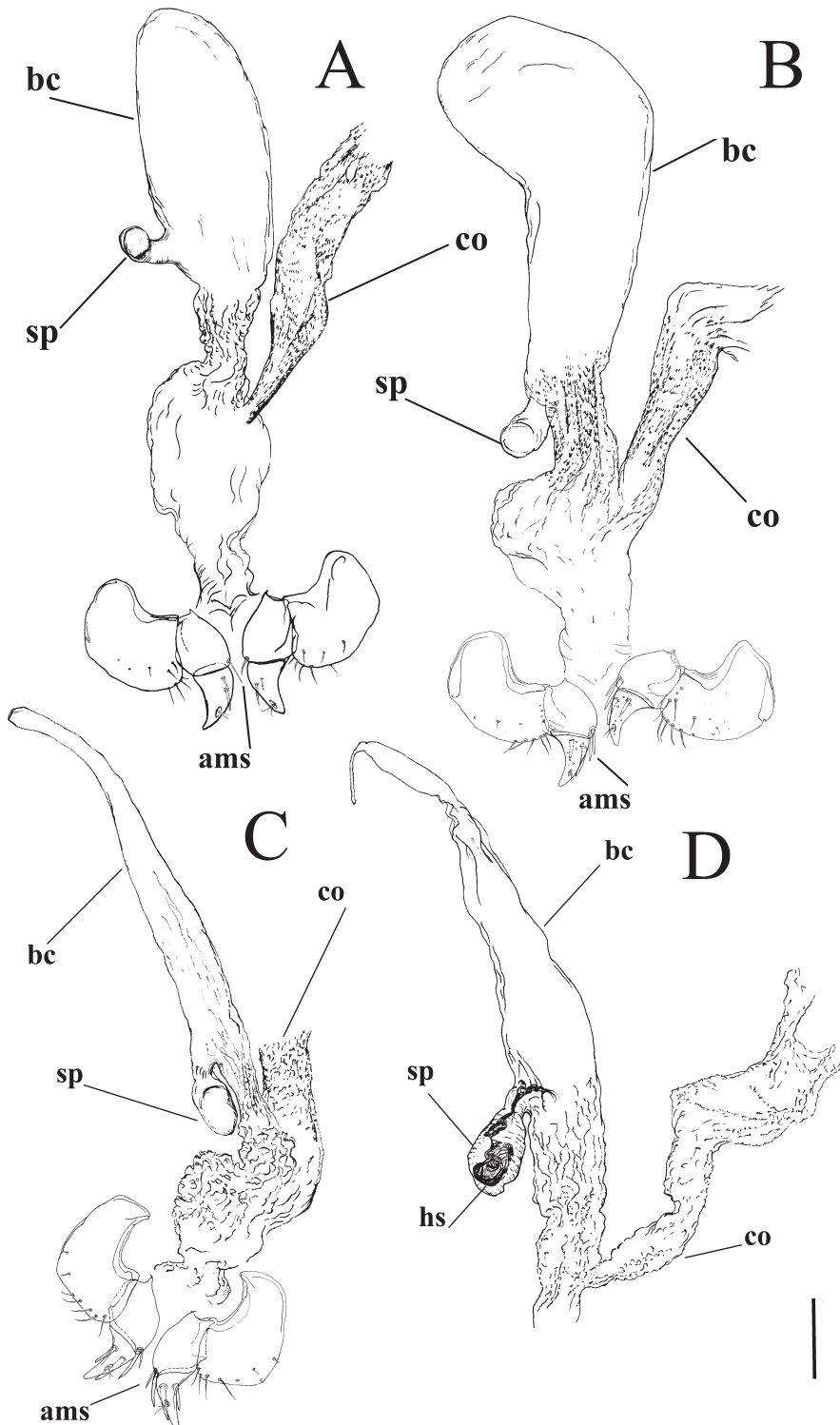
Pronotum cordate, wider than head, widest at about two-sevenths from apex, and more strongly contracted basad than apicad; PW/HW 1.29–1.41 (M 1.36), PW/PL 1.06–1.13 (M 1.11), PW/PA 1.27–1.38 (M 1.32), PW/PB 1.39–1.56 (M 1.46), PA/PB 1.05–1.16 (M 1.10), PB/PA 0.86–0.95 (M 0.91); dorsum well convex; microsculpture mostly composed of fine transverse meshes, but isodiametric polygonal in apical and basal areas; dorsal pubescence various in length, denser at the median part, sparser (or sometimes almost glabrous) near sides especially at the antero-lateral area inside front angles; median line distinct on disc, deepening posteriad in basal area, but not reaching the base nor apex; apex nearly straight; front angles more obtuse than rectangle and rounded at the tip, but distinctly produced forwards; base slightly emarginate at middle and gently obliquely subtruncate or emarginate inside each hind angle, which is a little sharper than rectangle and reflexed dorsad; sides well rounded in front and sinuate at about seven-ninths from apex, distinctly uniformly bordered; lateral fringing ciliae becoming scarce at the sinuate parts; anterolateral setae located only a little before (or just at) the widest parts, postangular setae a little removed forwards from the angle; apical transverse impression obsolete, basal one as in the diagnosis of the species-group; surface of basal area relatively smooth and only slightly notched along basal margin. Scutellum subpentagonal, fairly large.

Elytra ovate, very ample, much wider than pronotum, widest at about four-ninths from base, and more rapidly narrowed basad than apicad; EW/PW 1.48–1.57 (M 1.53), EL/PL 2.38–2.60 (M 2.50), EL/EW 1.42–1.57 (M 1.47); scutellar area rather anteriorly positioned and largely exposed, slightly subovally depressed on each side, but without transverse depression along the prehumeral borders unlike *Stygiotrechus*; shoulders rounded though recognizable; prehumeral margins oblique to the midline and gently arcuate; sides with lateral margin entirely smooth even at the humeral parts, though



Figs. 5–8. Male genitalia of *Gotoblemus (Kamigotoblemus) fukueicus* sp. nov. — 5 & 6, The nominotypical subspecies; 7 & 8, *G. (K.) f. occidentalis* subsp. nov. — 5 & 7, Left lateral view; 6 & 8, dorsal view of apical parts. Scale: 0.20 mm.

Fig. 9. Female genitalia of *Gotoblemus* and *Stygiotrechus* spp. in ventral view. — A, *Gotoblemus (Gotoblemus) ii*; B, *G. (Kamigotoblemus) fukueicus* sp. nov.; C, *Stygiotrechus pachys*; D, undescribed species intermediate between *S. pachys* and *S. kubotai*. ams: apicomedial setae on basal gonocoxite of dimerous gonocoxa; bc: bursa copulatrix; co: common oviduct; hs: helmithoid sclerite in spermatheca, extending into bursa copulatrix; sp: spermatheca. Scale: 0.10 mm.



ciliate throughout, arcuate from behind shoulders to apices which are practically conjointly rounded, though very small obtuse re-entrant angle is formed at suture; lateral bead rather wide at the humeral parts, becoming narrower anteriorly and posteriorly; striae rather superficial, but inner ones are more or less deepening near base and frequently forming basal anastomosis with neighboring or every other stria; stria 1 relatively deep and entire, striae 2–3 moderately impressed and nearly entire, stria 4 shallower than inner ones though almost entire, stria 5 rather faint and sometimes fragmented, becoming obsolescent apically, stria 6 only indicated by faint fragments and a row of punctures, stria 7 obliterated, stria 8 irregularly traceable around the marginal umbilical pores; intervals slightly convex on disc but flat at the sides, inner ones more or less raised near base; pubescence on intervals sometimes rather reduced at the middle portion of each elytron, and more conspicuous on interval 8; scutellar striae fairly deep, partially merging into the basal part of stria 1; apical striae shallow but distinct, gently arcuate and directed to the site of stria 5; apical carina weak but convex, rather shortly arcuate; two discal setae on each stria 3 positioned at about 3/19–1/6 and 4/9 from base, respectively; preapical pore positioned on the faint apical anastomosis of striae 2 and 3, and much more widely distant from apex than from suture; microsculpture consists of fine transverse meshes.

Legs fairly long but stout for the genus; protibia gradually dilated apically and slightly bowed inwards, wholly pubescent and not externally grooved, though one (or two) thin longitudinal incomplete vestigial carina(e) sometimes present on the external to anterior face; metatibia about half as long as elytra, gradually dilated apically and slightly outcurved; mesotarsal segment 1 as long as (or a little longer than) segments 2–3 combined; metatarsal segment 1 obviously longer than segments 2–3 combined, but shorter than segments 2–4 combined.

Male genital organ small and relatively lightly sclerotised. Aedeagus only about one-fifth to two-ninths as long as elytra; in profile, relatively similar to those of *Stygiotrechus parvulus* S. UÉNO or *S. esakii* S. UÉNO, but more strongly dorsally depressed and much broader in dorsal view than in those species; in the curvature and in somewhat truncate apical extremity also similar to those of the other congeners, but much broader than in the latter; basal part strongly bent ventrad, fairly broad, with considerably wide basal orifice, whose lateral sides gently emarginate; sagittal aileron hyaline, very small, present only around the proximal end of aedeagus; in lateral view, dorsal margin semicircularly rounded to the base of apical orifice, then more straightly narrowed to the base of apical lobe, which is decurved and obliquely subtruncate at the extremity; viewed dorsally, apical half of aedeagus gently torsioned to the right, then decurved apical lobe seemingly inclined to the left and obliquely subtruncate at the left side at the extremity (sometimes right side vertex is positioned strongly apically, making apical lobe narrowly pointed). Inner sac armature fairly large though rather poorly sclerotised; as a whole subconically tapering apically, but basically composed of nested two lamellae, whose lateral parts are seemingly somewhat sclerotised and whole structure is enveloped by a membrane covered with transparent scales. Styles of moderate size, left one longer than the right, each with four apical setae.

Female genitalia (Fig. 9B) similar to those of *Gotoblemus (Gotoblemus) ii* (Fig. 9A), but the number of apicomedial setae on the basal gonocoxite usually two (sometimes one on one side), while it is almost always one in the latter species. Reproductive tract with discrete succiform spermatheca rather broadly attached to the basal part of the bursa copulatrix which is nearly straightly extending from vagina, though curving to the left at the apical part (simply suboval in *G. (G.) ii*) and not particularly prolonged apically, slightly constricted at the neck whose surface has the ringed area of transparent scales as in *G. (G.) ii*; common oviduct obliquely branching from the axis of vagina–bursa.

Type series. Holotype: ♂ (NSMT), 23.IV.2012, T. NAITÔ leg. Paratypes: 5 ♂♂, same data as in the holotype; 4 ♂♂, 1 ♀, 15.IV.2015, same locality and collector.

Type locality. Ôgawara, 60 m in altitude, Kishiku-machi in Gotô-shi on Fukue-jima Island of the Gotô Islands, Nagasaki Prefecture, western Japan.

Further specimens examined. 4 ♂♂, 5 ♀♀ (including one male specimen missing the fore-body), Matsuyama, 160 m in altitude, eastern foot of Titiga-také Mountain, Kishiku-machi in Gotô-shi, Nagasaki Prefecture, 17–18.IV.2012, T. NAITÔ leg.

Habitat and Bionomics. The type locality of this new species is situated about 16.6 km distant to the northeast from the shared type locality of *Stygiotrechus pachys* and *Gotoblemus (Gotoblemus) ii*, I-ana caves in Tomié-cho on Fukue-jima Island. *Gotoblemus fukueicus* dwelt in the colluvium deposited along the bank of a short side gully on the left (northern) side of the Ôgawara-gawa River. The specimens collected were found from beneath the stones embedded in relatively shallow layer of the colluvium, though a few individuals were dug out from the deeper layer at the depth more than 50 cm.

Etymology. The specific epithet is derived from the name of the island on which the type locality lies.

Remarks. Collecting site of Matsuyama population is located about 3.5 km distant to the south southeast from the Ôgawara site, the type locality, on the right (southern) side of the I-gawa River; thus, separated from the type locality by two small rivers (Ôgawara-gawa and I-gawa). Slight differences in minor details of the various body parts are observed in the specimens from the Matsuyama population as follows: larger on an average (3.13–3.73 mm in length); genae a little more strongly roundly produced; mentum tooth somewhat more deeply cleft at apex; pronotum only a little less strongly cordate, with widest part a little more posteriorly positioned; elytra proportionally a little smaller; elytral striation only slightly more distinct and apical carina somewhat more prominent; first and second elytral discal setae closer to each other, with second pore more anteriorly positioned; appendages somewhat stouter. Standard ratios of body parts of the Matsuyama population are as follows: HW/HL 1.14–1.30 (M 1.20), PW/HW 1.31–1.36 (M 1.34), PW/PL 1.04–1.12 (M 1.09), PW/PA 1.30–1.34 (M 1.32), PW/PB 1.38–1.42 (M 1.41), PA/PB 1.04–1.09 (M 1.06), PB/PA 0.92–0.96 (M 0.94), EW/PW 1.49–1.56 (M 1.54), EL/PL 2.32–2.52 (M 2.45), EL/EW 1.42–1.51 (M 1.46). However, the Matsuyama population probably can be included in the same taxon as topotypical one at the subspecific level, since the male genitalic feature of the Matsuyama population is obviously more closely similar to that of Ôgawara population than to that of the subspecies *occidentalis* to be described below.

***Gotoblemus (Kamigotoblemus) fukueicus occidentalis* subsp. nov.**

(Figs. 4 & 7–8)

Diagnosis. Distinguished from the nominotypical subspecies by the more weakly rounded pronotal sides, more elongate elytra with parallel sides, and less apically elongate aedeagus with shorter apical lobe.

Description. Length: 3.14–3.38 (from apical margin of clypeus to apices of elytra).

Colour and pubescence as in the nominotypical subspecies; microsculpture a little more distinct than in the nominotypical subspecies, though identical in mode. Head as in the nominotypical subspecies, though antennae are proportionally slightly shorter (but not stouter). Pronotum less transverse, with sides more gently arcuate in front and more weakly sinuate before basal part than in the nominotypical subspecies (including the Matsuyama population), widest at about two-sevenths from apex as in the topotypical population of the nominotypical subspecies; sides sinuate at about one-fifth from base (at more posterior position than in the nominotypical subspecies); front angles less salient. Elytra oblong-oval, narrower and more elongate than in the nominotypical subspecies, widest a little behind

four-ninths from base and more gradually narrowed both basad and apicad than in the nominotypical subspecies; dorsum a little less convex. Standard ratios of body parts are: HW/HL 1.16–1.26 (M 1.20), PW/HW 1.32–1.34 (M 1.33), PW/PL 1.06–1.12 (M 1.09), PW/PA 1.28–1.35 (M 1.31), PW/PB 1.42–1.47 (M 1.45), PA/PB 1.07–1.13 (M 1.10), PB/PA 0.89–0.94 (M 0.90), EW/PW 1.47–1.53 (M 1.50), EL/PL 2.40–2.58 (M 2.52), EL/EW 1.51–1.55 (M 1.54). Legs a little slenderer but proportionally shorter than in the nominotypical subspecies.

Aedeagus very similar to that of the nominotypical subspecies, but more or less different from the latter in the following details: basal parts somewhat more voluminous especially in dorsal view; proximal end a little less pointed proximad; middle portion proportionally slightly shorter; apical lobe shorter, a little more distinctly inclined to the left, with the tip more strongly rounded on each side in dorsal view. Styles a little smaller on an average.

Type series. Holotype: ♂ (NSMT), 2.IV.2013, T. NAITÔ leg. Paratypes: 2 ♂♂, same locality and collector but 11.IV.2015.

Type locality. Nakasu, 50 m in altitude, Tamanoura-machi in Gotô-shi, on Fukue-jima Island of the Gotô Islands, Nagasaki Prefecture, western Japan.

Habitat and Bionomics. The type locality of this new subspecies lies on the western slope of the small peninsula which protrudes westwards from the mainland of the island into the bay of Tamanoura. It is about 10.1 km southwest from the type locality of the nominotypical subspecies, Ôgawara; about 6.8 km southwest from the collecting site of the Matsuyama population; about 12.3 km northwest from the type locality of *Gotolemus (Gotolemus) ii*, I-ana caves; and only about 200 m removed from the seashore. The type specimens were collected from rather humid colluvium deposited at the roadside. Trechines were found walking on the ground beneath the embedded stones usually near the underground seepages.

Etymology. The subspecific name is given in view of the area of its occurrence, which is situated to the west of the type locality of the nominotypical subspecies.

Remarks. It is very interesting that the habitus of this subspecies appears to be somewhat similar to that of *Gotolemus (Gotolemus) ii*, though the conformations of the labium and male protarsi remains unmodified from those of the subgenus *Kamigotolemus*. This tendency seems to suggest the adaptive radiation process of the genus *Gotolemus*; lava cave endemic *G. (G.) ii* may have derived from a *fukueicus*-like ancestor in isolation on the lava plateau of the southernmost part of Fukue-jima Island.

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要 約

内藤隆夫：五島列島西端部から発見されたゴトウメクラチビゴミムシ属（鞘翅目オサムシ科）の特異な 1 新種。———五島列島西端の福江島西半部の地域から、ゴトウメクラチビゴミムシ属 *Gotoblemus* の新種 フクエメクラチビゴミムシ（新称）*G. fukueicus* sp. nov. とその亜種タマノウラメクラチビゴミムシ（新称）*G. f. occidentalis*, subsp. nov. を記載した。フクエメクラチビゴミムシは、主に東日本に分布するクラサワメクラチビゴミムシ属 *Kurasawatrechus* やキタカミメクラチビゴミムシ属 *Dracotrechus* の構成種に外見上似るが、これらとは下唇や小楯板周辺、前脛節の状態において異なる。そこで、本新種をさしあたり地理的に隣接して分布し、外見的印象はかなり異なるものの、前体部と後体部の間がくびれ、上翅肩部に明瞭な突起を欠く点では一致するゴトウメクラチビゴミムシ属のカミゴトウメクラチビゴミムシ亜属 *Kamigotoblemus* に含めて独自の種群を構成するものとし、同属内を本新種を含む各種の形態的特徴により 2 亜属 3 種群に整理した。本新種を含む種群は暗い体色や、明瞭に 2 分した下唇歯などをその特徴とする。

References

- CASALE, A., & R. LANEYRIE, 1982. Trechodinae et Trechinae du monde. Tableau des sous-familles, tribus, série phylétique, genres, et catalogue général des espèces. *Mémoires de Biospéologie, Moulis*, **9**: 1–226.
- CASALE, A., A. VIGNA TAGLIANTI & C. JUBERTHIE, 1998. Coleoptera Carabidae. Pp. 1047–1081. In JUBERTHIE, C., & V. DECU (eds.), *Encyclopaedia Biospeologica*, II. 539 pp. Société de Biospéologie, Moulis-Bucarest.
- JEANNEL, R., 1928. Monographie des Trechinae. Morphologie comparée et distribution géographique d'un groupe de Coléoptères (Troisième livraison). *L'Abeille, Paris*, **35**: 1–808.
- JEANNEL, R., 1962. Les Trechini de l'Extrême-Orient. *Revue française d'Entomologie, Paris*, **29**: 171–207.
- LIEBHERR, J. K., 2018. Taxonomic review of Australian *Mecyclothorax* SHARP (Coleoptera, Carabidae, Moriomorphini) with special emphasis on the *M. lophoides* (CHAUDOIR) species complex. *Deutsche Entomologische Zeitschrift, Berlin*, **65**: 177–224.
- LIEBHERR, J. K., & K. W. WILL, 1998. Inferring phylogenetic relationships within Carabidae (Insecta, Coleoptera) from characters of the female reproductive tract. Pp. 107–170. In BALL, G. E., A. CASALE & A. VIGNA TAGLIANTI (eds.), *Phylogeny and Classification of Caraboidea (Coleoptera: Adephaga)*. 543 pp. Museo Regionale di Scienze Naturali, Torino.
- NAITÔ, T., 2017. Three new blind trechines of the genus *Stygiotrechus* (Coleoptera, Carabidae, Trechinae) from western Japan. *Elytra, Tokyo*, (n. ser.), **7**: 343–360.
- NAITÔ, T., 2018. Subterranean blind trechines of the *Trechoblemus* genus group (Coleoptera, Carabidae, Trechinae) from the Gotô Islands, western, Japan, with descriptions of a new subgenus and two new species. *Elytra, Tokyo*, (n. ser.), **8**: 433–453.
- UÉNO, S.-I., 1958. Two new trechids of *Kurasawatrechus*-group found in the limestone caves of Japan (Coleoptera, Harpalidae). *Japanese Journal of Zoology, Tokyo*, **12**: 123–131.
- UÉNO, S.-I., 1969. *Stygiotrechus* (Coleoptera, Trechinae), an assemblage of remarkably diversified blind trechines. *Bulletin of the National Science Museum, Tokyo*, **12**: 485–515.
- UÉNO, S.-I., 1970. The fauna of the insular lava caves in west Japan. III. Trechinae. *Bulletin of the National Science Museum, Tokyo*, **13**: 603–622.
- UÉNO, S.-I., 2010. New blind trechine beetles belonging to the *Kurasawatrechus*-complex (Coleoptera, Trechinae) from north-east Japan. I. Species from the Kitakami Hills. *Journal of the Speleological Society of Japan, Akiyoshi-dai*, **35**: 1–10.
- YOSHIDA, A., & S. NOMURA, 1952. A list of the Arthropoda in the limestone caves in Kantô-Mountainland, with the descriptions of a new genus and three species. *Chûhō, Tokyo*, **6**: 1–8.

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